



## When climate change is a fact! Adaptive strategies for drinking water production in a changing natural environment

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### Abstract:

Climate change increases water system dynamics through temperature changes, changes in precipitation patterns, evaporation, and water quality and water storage in ice packs. Water system dependent economical stakeholders, such as drinking water companies in the Netherlands, have to cope with consequences of climate change, e.g. floods and water shortages in river systems, upcoming of brackish ground water, salt water intrusion, increasing peak demands and microbiological activity due to temperature rise. In the past decades, however, both water systems and drinking water production have become more and more inflexible; water systems have been heavily regulated aiming at maximum security and economic functions and the drinking water supply in the Netherlands has grown into an inflexible, but cheap and reliable, system. At a water catchment scale, flexibility and adaptation are solutions to overcome climate change related consequences. Flexible adaptive strategies for drinking water production comprise new sources for drinking water production, application of storage concepts in the short term, and a redesign of large centralized systems, including flexible treatment plants, in the long term. Transition to flexible concepts will take decades because investment depreciation periods of assets are long. These strategies must be based on thorough knowledge of current assets to seize opportunities for change. © IWA Publishing 2007.

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### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

**Other Communication Audience:** Drinking water companies

#### Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Quality, Food/Water Security, Precipitation, Temperature

**Extreme Weather Event:** Flooding

# Climate Change and Human Health Literature Portal

**Food/Water Quality:** Chemical, Pathogen

**Geographic Feature:** 

resource focuses on specific type of geography

Freshwater

**Geographic Location:** 

resource focuses on specific location

Non-United States

**Non-United States:** Europe

**European Region/Country:** European Country

**Other European Country :** Netherlands

**Health Impact:** 

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Foodborne/Waterborne Disease

**Foodborne/Waterborne Disease:** General Foodborne/Waterborne Disease

**Intervention:** 

strategy to prepare for or reduce the impact of climate change on health

A focus of content

**Mitigation/Adaptation:** 

mitigation or adaptation strategy is a focus of resource

Adaptation

**Resource Type:** 

format or standard characteristic of resource

Research Article, Review

**Timescale:** 

time period studied

Time Scale Unspecified

**Vulnerability/Impact Assessment:** 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content